

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention. More specifically, claim 4 has been amended to more particularly describe the structure of the one resistance increasing portion. Support for this amendment can be found in the paragraph bridging pages 19-20 of the originally filed application.

It is submitted that the amendment to claim 4 is of a clarifying nature, and more clearly describes the subject matter that was previously presented. By further defining the invention, amended claim 4 reduces or limits the issues on appeal. Moreover, it is submitted that the amendment to claim 4 does not require further search or consideration by the Examiner. Accordingly, entry of the present amendment is respectfully requested.

Claims 1, 4, and 6 stand rejected as being anticipated by US 6,166,907 to Chien. For the following reasons, the Examiner's rejections are traversed.

First, with reference to claim 1, the Examiner has determined that Chien teaches "said plurality of blades each have an edge facing the front of the heat dissipating portion, each of the edges sloping gradually away from the heat dissipating portion as each of the edges extends in a radially outward direction from a rotating center of the impeller (As illustrated in Fig 5)". It is believed that the Examiner's interpretation of Chien is in error.

The invention defined in claim 1 of the present invention covers a structure

such as shown in Fig. 12D. The drawing sheet containing Figs. 12A-12D, with supplementary labels for the Examiner's convenience, is attached hereto.

From this marked-up Fig. 12D, it can be seen that the blade edges slope gradually away from the heat dissipating portion as each of the edges extends in a radially outward direction from a rotating center of the impeller. An inspection of Chien, Fig. 5, provides no such structure. This is not surprising, as the description provided by Chien is entirely silent on the structure of the blades, especially the configuration of the edges of the blades facing toward the heat sink.

With regard to the Examiner's interpretation of Fig. 5 of Chien contained on pages 7-8 of the Office action, it is noted that the features ascribed to the fan blades by the Examiner are nowhere found in the Chien disclosure. It is also noted, in this regard, that Fig. 5 of Chien has clearly been simplified for filing purposes, and from this figure the structure or shape of "an edge facing the front of the heat dissipating portion" cannot be known.

Thus, it must be concluded that the Examiner has forcibly identified the impeller shape of Chien by carefully reviewing claim 1 of the present invention. It is again submitted that one could not understand the shape of the impeller and the relationship between the impeller and the heat dissipating portion merely by looking at Fig. 5 of Chien, without reading through claim 1 of the present application.

Further, it is noted that the blades of Fig. 5 are clearly presented as a 'sketch', and are not depicted accurately. In this regard the Examiner will note that the blades have an irregular spacing and have no consistent shape or size. Further, while it is true that the blades must be angled (in order to blow air), there is no requirement that the edge of the blades are sloping in any particular direction.

Further, there is no disclosure in the Chien drawing Fig. 5 that indicates that the edge facing the front of the heat dissipating portion "sloping gradually away from the heat dissipating portion", as required. The 'edge' of Chien indicated by the Examiner appears to be curved laterally, but cannot clearly be seen as sloping in any direction relative to the heat dissipating portion. It appears equally as likely that the Chien 'edge' defines a plane that is parallel to the front of the heat dissipating portion, (i.e., such as taught by Calaman).

Accordingly, claim 1 is considered to be allowable over the art of record.

Reconsideration and withdrawal of the rejection of claim 1 is requested.

Claim 4 has been amended to more clearly define the 'resistance increasing portion'. More specifically, claim 4 now defines the resistance increasing portion as including first, second, and third portions. It is submitted that these portions, as defined, are not comparable with the corrugations of Chien. Further, the continuous corrugations of Chien cannot accelerate the flow rate of the coolant whereas that is exactly what the 'resistance increasing portion' does.

In light of the foregoing, it is submitted that claim 4, and claim 6 that depends therefrom, is allowable over the Chien patent. Reconsideration and withdrawal of the rejections of claims 4 and 6 is requested.

Claim 3 stands rejected as being unpatentable over Chien in view of US 6,749,012 to Gwin et al.

Gwin is cited for teaching a plurality of webs connecting a housing of a motor and an end portion of an air channel body on the side of a discharge port. It is submitted that Gwin does not teach that for which it is cited.

With reference to marked-up Fig. 12B, it is shown that the webs are disposed

on the discharge side of the air channel body (i.e., opposite the suction port). Gwin, on the other hand, teaches that webs are provided on the suction side of the fan housing. Thus, the Gwin webs are not located 'outside' of the discharge port. Further, Gwin does not teach that the 'end portion on the side of the discharge port is lower than an uppermost surface of the housing of the motor' as alternatively defined in claim 3.

Also, it is noted that Gwin does not correct the deficiencies of Chien as they relate to claim 1, from which claim 3 depends. Notably, Chien clearly teaches that the blades are planar and parallel to a front face of the heat dissipating portion.

Based upon the foregoing, it is submitted that the invention defined in claim 3 would not result even if the references were combined. Accordingly, for at least the foregoing reasons, reconsideration and withdrawal of the rejection of claim 3 based upon the proposed combination of Chien and Gwin is requested.

Claim 7 stands rejected as being unpatentable over Chien in view of US 6,578,626 to Calaman et al. Calaman is cited for teaching a coolant inlet and a coolant outlet extending through a top plate.

Initially, it is noted that Calaman does not correct the deficiencies of the base Chien reference as it relates to claim 4, from which claim 7 ultimately depends. For this reason alone, claim 7 is allowable over the proposed combination.

It is again noted that Calaman does not teach or suggest that "positioning of both end portions, with respect to the first direction, of the plurality of radiation fins are so determined that flow speeds of the coolant do not vary excessively greatly among flow passages each formed between two adjacent radiation fins as the coolant flows in at the coolant inlet and flows out of the coolant outlet through the

flow passages", as required by claim 7. The Examiner has essentially admitted this deficiency of Calaman (see page 10 of the office action). Accordingly, it is submitted that even if Chien and Calaman were combined, the present invention would not result, because the references, either alone or in combination, fail to teach or suggest the above-quoted portion of claim 7. Reconsideration and withdrawal of the rejection of claim 7 based upon the proposed combination of Chien and Calaman is requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. NIS-15441.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By /David E. Spaw/
David E. Spaw, Reg. No. 34732

4080 Erie Street
Willoughby, Ohio 44094-7836
(216) 566-9700

FIG.12C

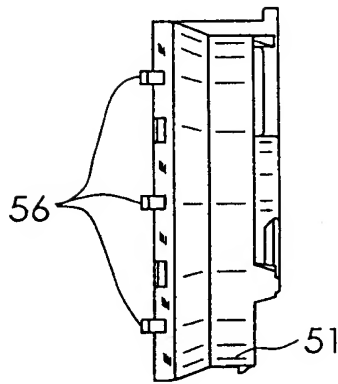


FIG.12A

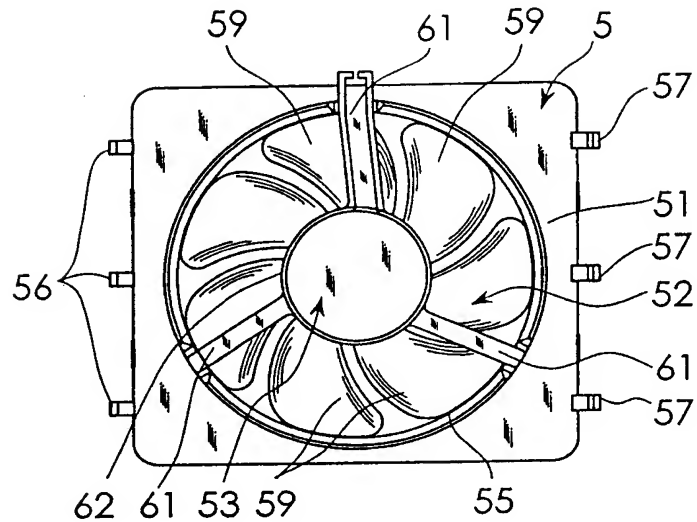


FIG.12B

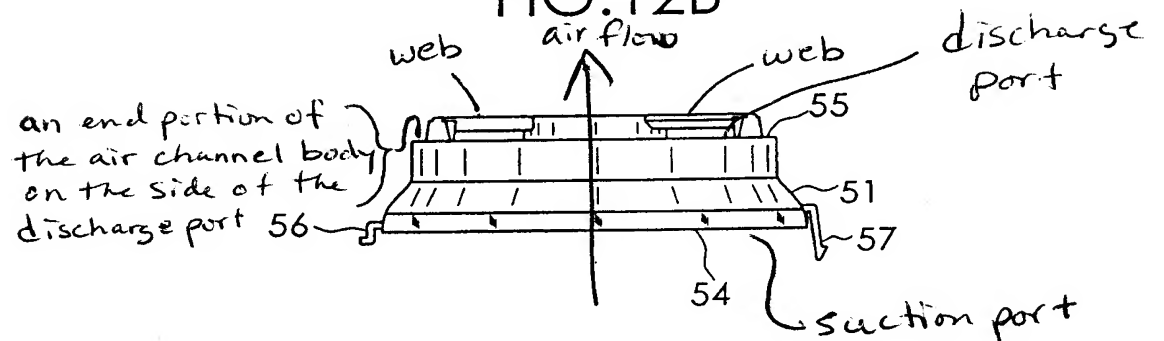


FIG.12D

